

Media Controller

Installation and User Guide



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Decisionmark is the service provider of analog and digital TV off-air cable and satellite channel list.

Radio Locator is the service provider of AM/FM channel list.

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Media Controller Installation and User Guide
Part Number: 21-0050 Rev D
Hardware Model Number: AVM-MC1-B

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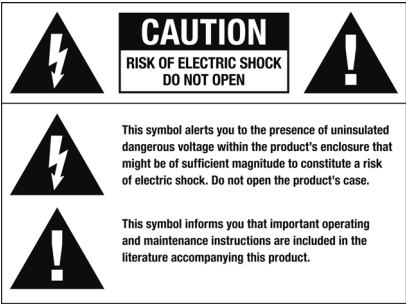
Important Information

This preface provides the following information:

- ▶ Graphical Symbols on the Device
- ▶ Graphical Symbols in this Guide
- ▶ Important Safety Instructions
- ▶ Additional Resources

Graphical Symbols on the Device

The following information has been placed on the device:



Graphical Symbols in this Guide

The following symbols and their descriptions draw your attention to important safe practices and additional information that can help you avoid injury, death, or loss of material or time.



WARNING! This indicates a potentially hazardous situation that, if **not** avoided, may result in death or serious injury. **DO NOT IGNORE A WARNING!**



CAUTION! This indicates a potentially hazardous situation that, if **not** avoided, may result in minor or moderate injury. **DO NOT IGNORE A CAUTION!**



IMPORTANT! This indicates information that will help you avoid damage to your equipment, loss of materials, or loss of time. **PAY ATTENTION TO THESE IMPORTANT STATEMENTS!**



NOTE: This indicates a note about related information on the current topic.



TIP: This indicates a tip that might save you time or effort.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. This apparatus has no AC mains power switch. The appliance coupler is the AC mains disconnect device. As such, the appliance coupler must remain readily operable; that is, it must be readily accessible, and operation of the disconnect device must be free from obstruction.



WARNING! To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.



WARNING! This CLASS I apparatus must be connected to an AC mains socket outlet that has a protective earthing connection (i.e., third-prong ground conductor). **DO NOT DEFEAT THE PROTECTIVE EARTHING CONNECTION!**

Additional Resources

The following resources are available to provide you with additional support.

- ▶ Your authorized Control4 reseller
- ▶ Control4 Web Site: <http://www.control4.com>
- ▶ Composer online help
- ▶ Composer Media Edition online help

1 Introduction to Media Controller

This chapter introduces a Control4 home automation system and explains the important role a Control4 Media Controller plays in that system. It contains the following information:

- ▶ Role in a Control4 System
- ▶ Features and Benefits
- ▶ Requirements
- ▶ What's in the Box
- ▶ Control4 Supported Devices

Role in a Control4 System

An essential component in every Control4 system is a controller that acts as the central processor of the system.

Control4 controllers provide options for controlling lights, home theaters, distributed audio systems, and other devices controlled using various protocols, such as Infra Red (IR), Serial, Contact, Relay, etc.

The Media Controller provides extensive media management services for audio and video sources (such as CDs, MP3 files, and DVDs). It has a large hard drive for digital audio storage (such as imported CDs that have been converted to MP3 files). It also allows you to use an external storage device with USB support for media storage.

During the importing process, the Media Controller converts CDs to a compressed or non-compressed digital format to provide convenient playback.

Once music has been imported to the Media Controller hard drive, or other media has been stored in connected devices, you can use the Media Controller to manage

your media collections, play music, or access other stored media.

Features and Benefits

The Media Controller makes it easy to enjoy your favorite music wherever you are. The Media Controller digitally stores music collections and delivers simultaneous audio streams over a wired or a wireless home network. The Media Controller utilizes online music and movie recognition. You can select music by artist, song, genre, or even album cover art.

The Media Controller is the center of a complete home automation system. It is also a platform to control lighting, security, temperature and more throughout the home.

Music Server

- ▶ **Hard drive** – Stores the entire family's music collections. The AVM-MC1-B has 80 GB of hard drive space with room for approximately 1,000 CDs.
- ▶ **Multiple input options** – Imports music using the built-in CD Drive or a home network (wireless or wired).
- ▶ **Multi-room audio** – Distributes analog audio to three separate zones.
- ▶ **Digital audio streaming** – Provides digital audio streaming throughout the home.
- ▶ **Catalog** – Provides an entire digital music collection to search by artist, genre, song, or album cover art.
- ▶ **Customized playlists** – Easily creates playlists for every occasion and mood.

Powerful Automation Controller

- ▶ Complete theater control – Provides multiple IR outputs and intelligent video sensing, making control of the entire home theater easy.
- ▶ Complete home control – Allows complete control of the whole home using devices controlled by IR contacts, relays, serial, IR, or other protocols.
- ▶ Standards-based control – Devices throughout the home are controlled via wired or wireless communication (Ethernet or ZigBee 802.15.4 mesh networking).
- ▶ Seamless integration – Works with Control4 and a comprehensive array of third party components.

Easy to Set Up

- ▶ Easy configuration – Provides a software wizard on a connected PC that guides users through the installation process.
- ▶ Connections made easy – Provides easy setup with the included cables and clearly marked connectors on the back panel.

Requirements

- ▶ Wired Ethernet network in place, using a shielded Ethernet cable to the Media Controller.
- ▶ Media Controller measures 3 rack units high — 5.88" with feet, standard rack width — 17.24" with rack ears, and 16.4" deep (this product).
- ▶ System Remote Control and On-screen Navigation (included).
- ▶ A monitor or TV for on-screen navigation and control.

What's in the Box

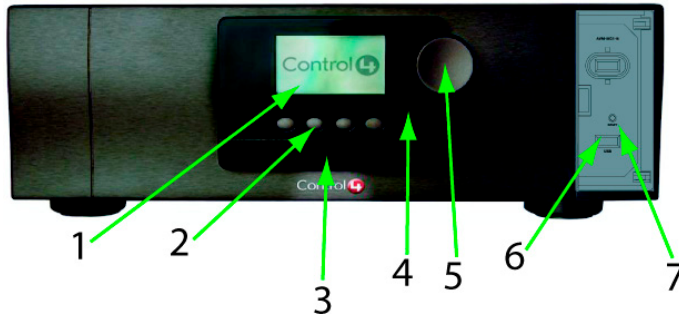
The following are included in your Media Controller box:

- ▶ Media Controller and On-screen Navigator software
- ▶ Pluggable terminal block connectors (11)
- ▶ Control4 System Remote Control with LCD Navigator display and 4 AAA batteries
- ▶ S-VIDEO cable
- ▶ Composite video cable
- ▶ IEC power cord
- ▶ IR emitters (8)
- ▶ Stereo RCA cable
- ▶ *Media Controller Installation and User Guide* (this manual)
- ▶ *On-Screen Navigator User Guide*
- ▶ *System Remote Control User Guide*

This following sections include:

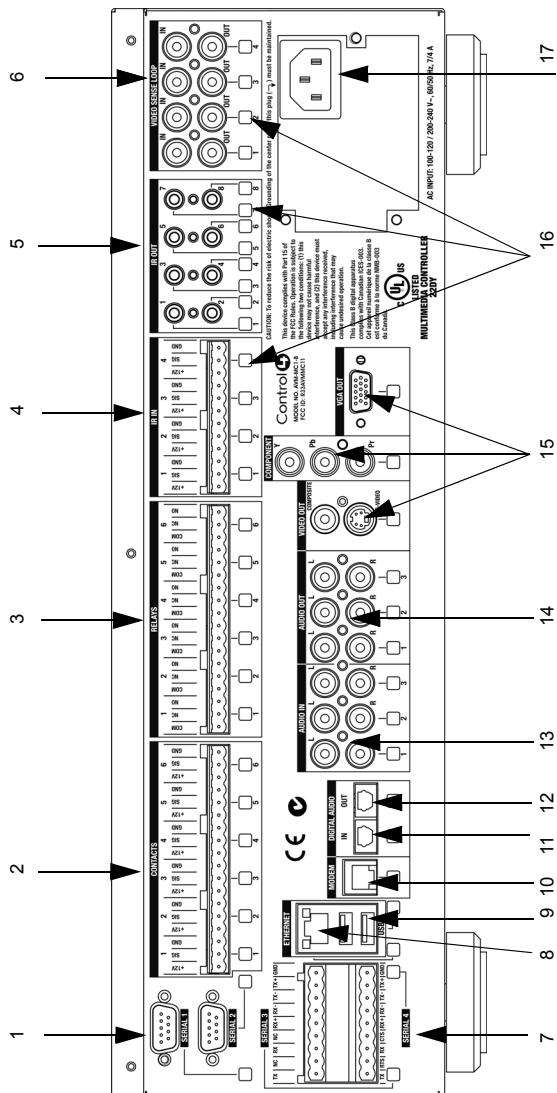
- ▶ Front view with Door Opened
- ▶ Backview
- ▶ Specifications

Front View with Door Opened



1. **Front display area** — For viewing settings, network addresses, playlist and title sections, media information, receiver status, and system menus.
2. **Buttons** — For choosing options on the front display.
3. **CD drive** — For importing CDs into the system.
4. **IR window** — For capturing IR codes from third party devices from hand-held devices, such as remote controls using the Driver Wizard within Composer. The IR filter is designed to capture codes at or close to 40 kHz.
5. **Select Dial** — For identifying the network address on the network and for scrolling through menus and media lists on the front display.
6. **USB port** — For supported USB memory devices, such as FAT32 formatted devices, for storing MP3 files to utilize on the Control4 system.
7. **Reset button** — Resides behind the closed door for resetting the Media Controller by holding the button for 10 seconds.

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1. **Serial 1- 2**—Standard RS-232 serial ports with hardware flow control available for controlling serial devices such as projectors or DVD changers (DB9 connector type).
2. **Contacts 1- 6**—6 pin Pluggable Terminal Block connectors for up to six dry contact closure, logic input connections, door contact sensors, or motion sensors. Maximum voltage is 24 volt, AC or DC.
3. **Relays 1- 6**—6 pin Pluggable Terminal Block connectors for up to six normally closed or normally opened switchable connections such as blinds, fireplaces, or projector screens.
4. **IR In 1- 4**—Pluggable Terminal Block connectors provide support for up to four hand-held IR devices, such as remote controls.
5. **IR Out 1- 8**—3.5 mm jacks for up to 8 IR output sensors. There are two IR output types:
 - IR outputs 1-4 are lower power (~10 ma)
 - IR outputs 5-8 are higher power (~25 ma)
6. **Video Sense Loop In-Out (pairs) 1-4**—Composite port pairs for up to four video sources, such as DVD players or VCRs, that allow the system to determine the On/Off status of devices.
7. **Serial 3- 4**—9 pin Pluggable Terminal Block connectors for configurable serial ports: RS-232, RS-422, or RS-485 for projectors or other serial devices.
8. **Ethernet**—RJ-45 for a 10/100 BaseT Ethernet connection, using a shielded Ethernet cable.
9. **USB**—Port to support external storage devices, such as USB memory devices. Note: this is upside-down by most standards.
10. **Modem**—RJ-11 port for modem (currently disabled).
11. **Digital Audio In**—Optical connection (Toslink) for digital audio input.
12. **Digital Audio Out**—Optical connection (Toslink) for digital audio output.
13. **Audio In (Left-Right pairs) 1-3**—RCA jack for stereo channel input for up to three stereo analog sources.
14. **Audio Out (Left-Right pairs) 1-3**—RCA jack for stereo channel line output for amplifiers or audio switches.
15. **Video Out Options**—VGA, Component, Composite or S-VIDEO port for displaying navigation menus on a monitor or TV.
16. **EZ ID™ Led's**—Every port on the Media Controller back panel is supported by EZ ID Led's that light at different times during the setup process to identify ports and indicate signal activity.
17. **Power plug port**—IEC power cord.

Specifications

Model Numbers

- ♦ AVM-MC1-B

Connections

- ♦ Audio Input: 3 analog, 1 digital
- ♦ Audio Output: 3 analog, 1 digital
- ♦ On-screen display output: S-VIDEO, Composite, VGA, Component
- ♦ Video sense loop: 4 inputs and 4 outputs
- ♦ Serial: 2 RS232, DB9 connectors 2 RS232 3-wire, RS422 or RS485, pluggable terminal blocks
- ♦ Contact: 6 Inputs, pluggable terminal blocks
- ♦ Relay: 6 outputs, normally closed or normally open, pluggable terminal blocks
- ♦ IR: 4 inputs, 3-wire, pluggable terminal blocks 8 outputs, 3.5mm phone jacks
- ♦ ZigBee (802.15.4 mesh networking)
- ♦ Ethernet 10/100baseT, RJ-45 jack
- ♦ Modem: Disabled
- ♦ USB: 1 front, 1 rear

Storage Capacity

- ♦ 80 GB hard drive
- ♦ Approximately 1,000 CDs in 192kbps compressed MP3 format

Media Recognition

- ♦ AMG online CD/DVD recognition and media information service

Audio Recording Formats

- ♦ MP3: 192kbps

Audio Playback Formats

- ♦ Uncompressed WAV and PCM: 44.1kHz, 16 bit stereo
- ♦ MP3: 32kbps to 320kbps, CBR and VBR

Display

- ♦ Backlit LCD display

Power Requirements

- ♦ 100-120 / 200-240 VAC, 60/50 Hz, 7/4 A

Dimensions

- ♦ H x W x D: 5.2" x 17" x 15.9" (or 132mm x 432mm x 404mm)
- ♦ Weight: 17.5 lbs. (or 7.95 kg)
- ♦ Shipping Weight: 23 lbs. (or 10.44 kg)

Control4 Supported Devices

For a list of Control4 supported devices and solutions, see “Products” at <http://www.control4.com>.

Typical devices include:

Speaker Point™	Wireless Dimmer
Mini Touch Screen	Wireless Switch
Touch Screen – 10.5”	Wireless 2, 3, & 6 Button Keypads
Multi Channel Amplifier	Wireless Outlet Dimmer
Audio Matrix Switch	Wireless Outlet Switch
Wireless Thermostat	
Wireless LCD Keypad	

CHAPTER 2 Install the System

This chapter explains how to set up the Control4 home automation system and how to make hardware connections. The essential tasks include:

1. Plan the Equipment Layout
2. Power Up the Media Controller
3. Connect to the Network
4. Connect Devices
5. Change Front Panel Information

Plan the Equipment Layout

When planning the equipment layout, follow these guidelines:

- ▶ Plan Control4 System Connections
- ▶ Meet Home Network Requirements
- ▶ Plan Your System Connections
- ▶ Determine Best Video Option

Plan Control4 System Connections

When setting up the Media Controller, you need to plan your physical connections and within Composer define these connections to mirror the actual connections.

For instructions on setting up the connections, refer to the Composer Professional online help.

Meet Home Network Requirements

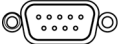
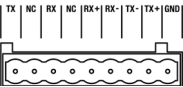
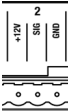
Ensure that your home network is in place before starting your system setup. The Media Controller requires an Ethernet connection in order to use all features as designed. When connected, the Media Controller can access Web-based media databases and can easily access Control4 system updates.

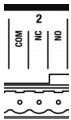
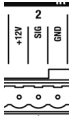



Plan Your System Connections








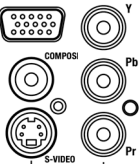

When setting up the Media Controller, you need to plan the physical connections. Then, at your preference you can either use Interviewer (within Composer) to guide you through setting up these connections, or you can set up the physical connections first and then run Interviewer to tell the system how things are physically connected.

Complete the worksheet that follows to plan the system connections. For more information, see the Composer online help topic “Set up and Design a System with Interviewer.”

Table 2-1. Media Controller Connection Worksheet

Connection Options and Typical Use	Reserved for:
Serial 1-2 — Standard RS-232 serial ports with hardware flow control available for controlling serial devices such as projectors or DVD changers (DB9 connector type). 	1. 2.
Serial 3-4 — 9 pin Pluggable Terminal Block connectors for configurable serial ports: RS-232, RS-422, or RS-485 for projectors or other serial devices. See “Configure and Connect to the Serial Ports” on page 24 for more information. 	1. 2.
Contacts 1-6 — 6 pin Pluggable Terminal Block connectors for up to six dry contact closure, logic input connections, door switches, or motion sensors. See “Connect to the Contact Ports” on page 26 for more information. 	1. 2. 3. 4. 5. 6.

Connection Options and Typical Use	Reserved for:
<p>Relays 1-6 — 6 pin Pluggable Terminal Block connectors for up to six normally closed or normally opened switchable connections such as blinds, fireplaces, or projector screens.</p>  <p>Each set contains a connection for Common (COM) Normally Closed (NC) or Normally Opened (NO). See “Connect to the Relay Ports” on page 27 for more information.</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6.
<p>IR In 1-4 — Pluggable Terminal Block connectors provide support for up to four hand-held IR devices, such as remote controls. Each set of connections include Power (+12v), Signal (SIG), and Ground (GND). See “Add IR Receiver Capabilities to Remote Locations” on page 27.</p> 	<ol style="list-style-type: none"> 1. 2. 3. 4.
<p>IR Out: Low — 3.5 mm jacks for up to four lower power IR outputs sensors (~10 ma). These ports are for applications that may experience cross talk or bleed through problems of IR signals between two pieces of equipment. See “Set Up IR Emitters” on page 28 for more information.</p> 	<ol style="list-style-type: none"> 1. 2. 3. 4.
<p>IR Out: High — 3.5 mm jacks for up to four higher power IR outputs sensors (~25 ma). These ports are for applications that require additional drive current (brighter IR light) to the IR LED emitters. See “Set Up IR Emitters” for more information.</p> 	<ol style="list-style-type: none"> 5. 6. 7. 8.
<p>Video Sense Loop In-Out (pairs) 1-4 — Composite port pairs for up to four video sources, such as DVD players or VCRs, that allow the system to determine the On/Off status of devices. See “Use Video Sense Loops” on page 28.</p> 	<ol style="list-style-type: none"> 1. 2. 3. 4.

Connection Options and Typical Use	Reserved for:
Ethernet — RJ-45 for a 10/100 BaseT Ethernet connection, using a shielded Ethernet cable. 	1.
USB — For supported USB memory devices (such as FAT32 formatted devices). One is on the back and one is on the front (behind the door). 	1. 2.
Modem — RJ-11 port (currently disabled). 	Disabled
Digital Audio In — Optical connection (Toslink) for digital audio input. 	In:
Digital Audio Out — Optical connection (Toslink) for digital audio output. 	Out:
Audio In (Left-Right pairs) 1-3 — RCA jack for stereo channel input for up to 3 stereo analog sources. 	1. 2. 3.
Audio Out (Left-Right pairs) 1-3 — RCA jack for stereo channel line output for amplifiers or audio switches. 	1. 2. 3.
Video Out Options — VGA, Component, Composite or S-Video port for displaying navigation menus on a monitor or TV. Second simultaneous outputs available only if using combination of Composite and S-VIDEO. See “Video Out Options Ranked by Quality” on page 19. 	1. 2. (Conditional)
Power plug port — For IEC power cord. 	For IEC power cord





Determine Best Video Option

If you have multiple connection options for a video component, you need to determine the best connection available. Table 2-2 provides a list of video connection options that are ranked according to quality of video performance.



NOTE: There are four Video Out format options available on the Media Controller: VGA, Component, Composite, and S-VIDEO. Only the combination of S-Video and Composite can be used simultaneously.

Table 2-2. Video Out Options Ranked by Quality

Rank	Port	
1	VGA	
2	Component	
3	S-Video	
4	Composite	

Connect to the Network

If you are using an Ethernet connection for the Media Controller, plug the data cable from the home network connection into the Media Controller RJ-45 port (labeled “Ethernet”) and into the network port on the wall or at the network switch.

Power Up the Media Controller

Plug the Media Controller power cord (provided) into an electrical outlet.

Change Front Panel Information

To view or change the system configuration:

1. On the front panel, press the SETUP button. The System Configuration screen plays:

SYSTEM CONFIGURATION		
Host setme		
DHCP Client		
IP xx.xx.xx.xxx		
MSK 255.255.0.0		
MAC 00:0F:FF:00:01:30		
EDIT	LCD	CANC

The menu options are:

EDIT: Press this to change the network setup.

LCD: Press this to set Brightness or Contrast preferences for the LCD.

CANC: Press this to exit the screen without making changes and return to the default system screen.



NOTE: The default configuration is DHCP Client. This default setting assumes that your network system has a device serving as the DHCP Server, such as a network gateway, switch, or router. If there is not a DHCP server in the network, you will need to choose another option.

2. To edit the setup:
 - 2a. Press the EDIT button. The Network Setup screen is displayed:

NETWORK SETUP

1. Host Setup
2. DHCP Client
3. DHCP Server
4. Static IP

CANC

- 2b. Rotate the dial to select a setup option, press the dial, then edit the settings as follows.

Host Setup: Choose this option to enter a name server number for your DHCP Server. Turn and press the dial to set a number, then press OK.

DHCP Client: Choose this option if you have a DHCP server in your network that will provide a dynamic IP address to the Media Controller as needed. The system automatically will try to locate a DHCP server. When the message *"Server Found. Save Configuration?"* displays, press OK.

DHCP Server: If the network does not have a device serving as the DHCP Server (such as a network gateway, switch, or router), then you may use the Media Controller as the DHCP server. The following screen with default settings is displayed. These will work for most Control4 system users.

DHCP SERVER SETUP				
IP	10.	4.	4.	1
MSK	255.	255.	0.	0
GWY	.	.	.	
BEG	10.	4.	4.	10
END	10.	4.	4.	100
OK			CANC	

Static IP: Choose this option if you do not plan to use a DHCP solution. If you choose this option, you must provide an IP address, Mask (MSK), and Gateway (GWY) number.

STATIC IP SETUP				
IP	10.	4.	4.	1
MSK	255.	255.	0.	0
GWY	.	.	.	
OK			CANC	

3. To set LCD display preferences:
 - 3a. Press the LCD button on the front panel. The LCD Setup screen is displayed.
 - 3b. Rotate the dial to select Brightness or Contrast and then press the dial.
 - 3c. Rotate the dial to adjust the setting and then press the OK button.
4. Press the OK button to exit LCD Setup.

Connect Devices

You can use Interviewer within the Composer software on a PC to walk you through the connection physical process or you can set up the physical connections and then run Interviewer to tell the Control4 system the applicable connections.

Connect all applicable devices to the Media Controller using one of the available connection methods, including those described in Table 2-1, See “Media Controller Connection Worksheet” on page 16..

The following sections contain additional information that may be helpful during the setup process:

- ▶ Use Pluggable Terminal Block Connectors
- ▶ Configure and Connect to the Serial Ports
- ▶ Connect to the Relay Ports
- ▶ Add IR Receiver Capabilities to Remote Locations
- ▶ Set Up IR Emitters
- ▶ Use Video Sense Loops

Use Pluggable Terminal Block Connectors

Many Media Controller connections, including serial ports 3 and 4, contacts and relays, make use of pluggable terminal block connectors—a removable plastic part with locking latches for individual wires. The Media Controller ships with one pluggable terminal block connector for every applicable port.

To connect a device to a Pluggable Terminal Block:

1. Insert one of the wires required for your device into the appropriate opening in the Pluggable Terminal Block you reserved for that device (refer to Table 2-1 on page 16). For example, if you were adding a motion sensor, you would connect the motion sensor power input to +12V, its ground connector GND, and its output signal to SIG. See the sections that follow for instructions on connecting various protocols.

2. Lower the opening's latch until it locks the wire in place.
3. Repeat Steps 1-2 for all wires required for your device.



NOTE: When you connect dry contact closure devices, such as door switches, connect the switch between +12V (Power) and SIG (Signal). See *Contacts* on Table 2-1.

Configure and Connect to the Serial Ports

The Media Controller provides four serial ports: Two that use standard male DB9 connector and two that are configurable as RS-232, RS-422, or RS-485 and provide hardware handshake.

Wiring to one of the configurable ports depends on the wiring requirements of the device you are connecting. Refer to your device's documentation and the following table and figures to determine how to wire the port. Refer also to "Use Pluggable Terminal Block Connectors" on page 23.

Table 2-3. Serial Port Configuration Options

Connector Type	Transmit	Receive	Ground
RS-232	TX	RX	GND
RS-422	TX+TX-	RX+ RX-	
RS-485	TX+ RX+	TX- RX-	

Figure 2-1.
Configure RS-232 for Configurable Port

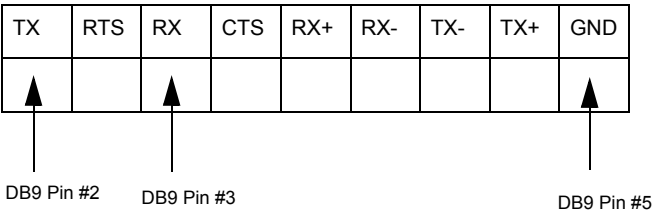


Figure 2-2.
Configure RS-422 for Configurable Port

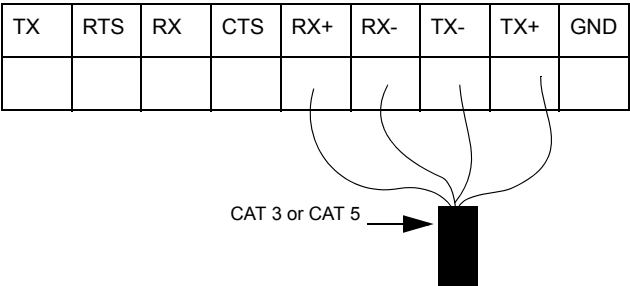
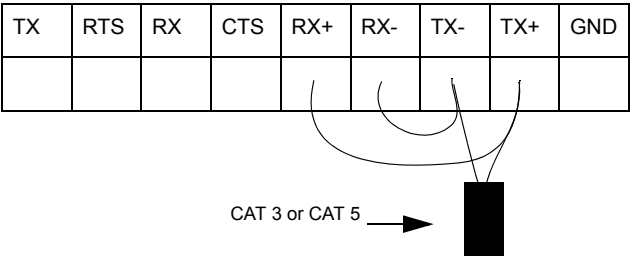


Figure 2-3.
Configure RS-485 for Configurable Port





TIP: If you are having trouble communicating with your device, make sure you have connected the transmit and receiver wires correctly. Ensure that the transmit line of the Media Controller is hooked to the receiver line of the device, and that the receiver line of the Media Controller is hooked to the transmit line. Also, ensure that ground is hooked to the ground.

Connect to the Contact Ports

The Media Controller provides six contact input ports. See the following figures to determine how to connect the device to a contact port. The maximum input voltage is 24 V AC/DC.

Figure 2-4. Connect Contact Port for Voltage Source (i.e. Motion Sensor)

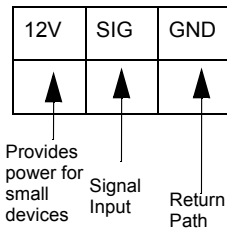


Figure 2-5. Connect Contact for Dry Contact (i.e. Door Contact Sensor.

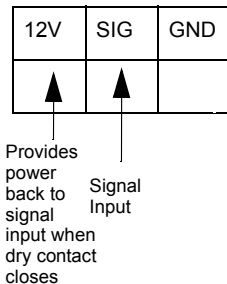
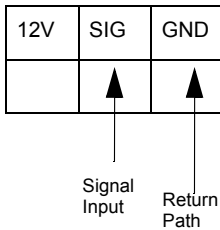


Figure 2-6. Connect Contact for Self Powered Voltage Source Device



Connect to the Relay Ports

The Media Controller provides one relay port as a subset of the pluggable terminal block provided.

For most applications, attach one wire to the common terminal and the other to the normally open terminal.

The relay switches close when the relay is activated.

The Media Controller can support applications that require a normally closed contact.

Add IR Receiver Capabilities to Remote Locations

To add an IR-controlled receiver from a remote location to your Media Controller:

1. Place your IR-controlled receiver at the remote location needed.
2. Run the wires from the remotely located IR-controlled receivers to the back of the Media Controller.
3. Connect the IR-controlled receiver wires (generally power, signal, and ground) to one of the Media Controller *IR In* connectors (pluggable terminal block connectors).

Set Up IR Emitters

Your system might contain third-party products that are controlled with IR commands (usually through remote controls). To provide a way for the Media Controller to control a device that only recognizes IR commands, complete the following setup.

1. Plug the 3.5 mm connector end of one of the 8 IR stick-on emitters provided into an IR Out port on the Media Controller.
2. Place the stick-on emitter end over the IR receiver on the media player, TV, or other target device to transmit IR signals from the Media Controller to the target.

Use Video Sense Loops

Video sensing can enhance the ability to sense the power state of a device, such as whether the device is “on” or “off.” If you need to add video signal sensing capabilities for a video device (such as a TV, VCR, DVD player, etc.), connect one of the device’s composite *Video Out* ports to a Media Controller *Video Sense In* port. Then, use the companion *Video Sense Out* port (where available) for the device’s video out as needed.

For Video Sense only (no loop-through), connect a device’s Composite Video Out port to one of the two Video Sense In ports.

CHAPTER 3 Configure the System

The Composer interface and wizards are designed to help you simplify the process to fully design, set up, and program a Control4 system.

This chapter provides an introduction for how you can configure a Control4 system using the Composer software. The essential steps include:

1. Design and Setup the System
2. Set Up Media and Create Playlists
3. Program the Home Automation System

For more detailed instructions and information, refer to the Composer online help.

Design and Setup the System

Within Composer, there are two options that allow you to design and set up Control4 systems, including:

- ▶ Interviewer
- ▶ The Main Composer Interface



TIP: You can go back and forth between the Interviewer and Composer at any time during setup or at any time for maintenance of the system after the initial setup.

Interviewer



The Home Automation Interviewer (Interviewer) is a wizard that guides you through project configuration to set up the Control4 system.

To launch Interviewer within Composer, from the File menu, click Run Interview.

If it is your first time setting up a Control4 system or you want to ensure you think of all the setup options, use the Interviewer.

As you answer questions while going through Interviewer, it configures a project. It takes you through successful completion of setting up a project covering required setup steps for adding devices and making connections.

Interviewer includes the following set up process:

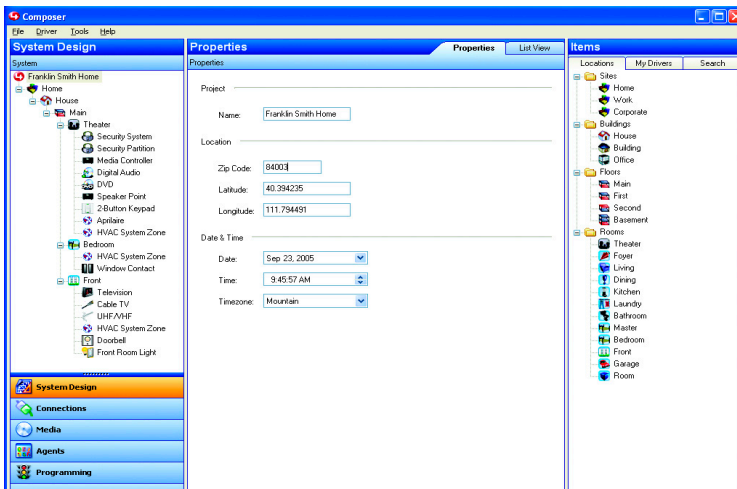
- ▶ System Design helps you define your project information and the types of devices on the system.
- ▶ Rooms helps you identify the rooms in your project and each device in a given room.
- ▶ Network helps you identify all the network connections. Network connections are devices that

connect to the controller hardware using a network address. These include devices like Control4 Dimmers, Switches, Keypads, Mini Touch Screens, System Remote Controls, and any other device that communicates ZigBee or TCP/IP.

- ▶ Audio/Video helps you define all the audio/video connections on the system. Audio/video connections include any device's inputs and outputs that carry audio and/or video signals.
- ▶ Control helps you define all the control connections on the system. Control connections include devices that use relay, contacts, IR, or serial for control.

Interviewer does not include media setup or programming of devices or agents. For more information and example implementations, see the Composer online help.

The Main Composer Interface



The main Composer interface allows you to set up and program a Control4 system. Within Composer, you can add devices, make connections, set up media, and program using devices and agents.

Setting up with Composer, you have the flexibility to follow any set up path you desire. When you become familiar with the Control4 system, this is the quickest method for setting up a system. When designing, setting up, and making connections for a project, you will use the following Composer views:

- ▶ System Design View — Allows you to build the Project Tree and identify the devices on the system.
- ▶ Connection View — Allows you to identify all connections (Room, Control, AV, Network).

For more information and example implementations, see the Composer online help.

Set Up Media and Create Playlists

To use the supported Media Management features, you need to have access to the media from either an external storage device or other stored or broadcast media available from other devices—such as a PC, disc changer, tuner, or network. To set up an external storage device, see the online help topic: “Use External Storage Devices.”

To set up Media or create playlists on the system, you can use Composer Media Edition or the Media view within the Composer Professional Edition. For more information, see the online help topic: “Set up Media and Create Playlists.” For more information, see the online help topic: “Set up Media and Create Playlists.”

You can also create custom playlists from the navigation devices, such as On-screen Navigator (display monitor), Mini Touch Screen, and Wireless Touch Screen. For more information, see the documentation provided with your navigation device.

Program the Home Automation System

The programming of the system includes programming interactions between events on the system and actions of other devices. You can program the behavior of devices, such as when the projector is turned on, the motorized screen comes down or when the door is opened, the lights turn on.

To do programming on the system using the Composer, drag and drop events and actions for corresponding devices on to a programming script. For more information, see the Composer online help.

This chapter introduces interfaces and the common system tasks you can perform with the Media Controller.

It contains the following information:

- ▶ Control Devices and Use the System
- ▶ Set up and Use External Storage Device
- ▶ Copy Music to the Digital Audio Player

Control Devices and Use the System

Once the Media Controller is set up, any navigation device associated with it (such as a Mini Touch Screen or a System Remote Control) is dynamically maintained. Any change made to the system is automatically reflected on all navigation devices. These options include room-specific menus and controls.

The following user interfaces are included with the Media Controller:

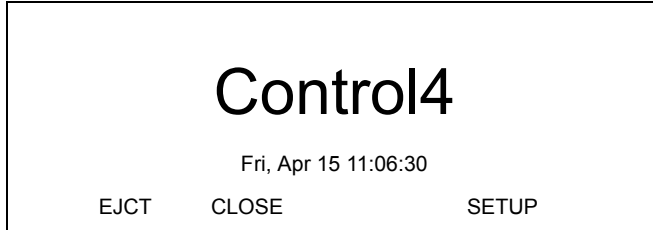
- ▶ Media Controller Front Display
- ▶ On-Screen Navigator
- ▶ System Remote Control with LCD

Additional user interfaces ship with other navigation devices and are described in the documentation that ships with them.

Media Controller Front Display


The information that displays on the Media Controller front display depends on the action you choose with the front panel buttons or with some other system navigation

device. See “Change Front Panel Information” on page 20



for more information.

On-Screen Navigator

The Media Controller provides an on-screen system called Control4 On-Screen Navigator. Once a Control4 system is configured and the Media Controller is connected to a monitor or TV, you can press the  button on the System Remote Control to access the *On-Screen Navigator* home screen.



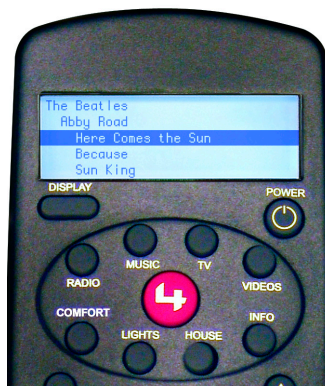
The On-Screen Navigator Home screen displays the current location and provides access to other locations and all subsystems.

- ▶ **Location** (upper-left of screen): Displays current room name that provides access to all available rooms in the system when you click on it.
- ▶ **Radio**: Allows you to browse all radio stations available or just favorite stations. Play an AM, FM, XM, Sirius, Satellite or Cable DMX, and radio broadcast.
- ▶ **Music**: Allows you to browse all stored music and filter the collection by artist, genre, or alphabetically. Also, provides on-screen controls for the Digital Audio Player—the built-in device that plays the digital audio files stored in the Media Controller.
- ▶ **TV**: Allows you to browse all broadcast channels (UHF/VHF, cable or satellite), then choose a channel.
- ▶ **Videos**: Allows you to view all available videos (or stored movies) and to control DVD players, VCRs, or DVRs.
- ▶ **Comfort**: Allows you to control all comfort-related devices, such as fans, curtains, blinds, or fireplaces.
- ▶ **Lights**: Provides controls for all lighting devices and lighting scenes that are available in the current room.
- ▶ **House**: Provides controls for security and communication-related features. Currently displays status information on contact switches (such as those found on doors, windows, motion sensors, cameras, and sprinklers).
- ▶ **Info**: Displays information such as: network status, screen savers, and other options.

For detailed information about using On-Screen Navigator, refer to the On-Screen Navigator User Guide.

System Remote Control with LCD

The Control4 System Remote Control that ships with this product includes an LCD for system information and feedback, in addition to a variety of buttons for accessing and controlling system components and media. The information that displays on the remote control LCD depends on the action you choose with the remote control buttons and/or with another system navigation device.



For detailed information on the remote control, refer to the System Remote Control User Guide.

Set up and Use External Storage Device

When using the Media Controller as the primary controller in the home, from the USB port (on the back), you can store and access media from an external storage device, such as a network hard drive or USB memory device.

For more information, see the Composer online help topic: “Use External Storage Devices.”

Copy Music to the Digital Audio Player

Control4 audio systems make use of digital music files that have been added to the Media Controller digital audio player storage area and scanned into the system's music database.



NOTE: Control4 Composer software offers installers a variety of methods for adding AND scanning music. Refer to the Composer Professional or Media Edition online help.

You can create digital backup versions of all your music CDs using the Media Controller. When you back up a music CD, the resulting copy is a digital music file that is stored on the Media Controller's hard drive. From there you can access it through many user interface options.

To copy a music CD to the hard drive:

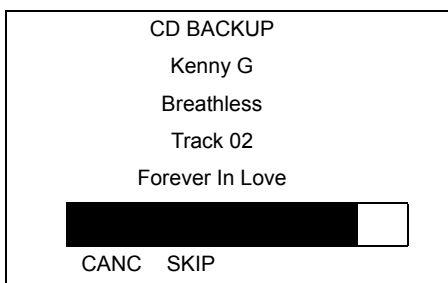
1. Press the EJCT button. The CD tray will open.
2. Drop a music CD in the tray and press the CLOSE button on the front display. The Media Controller attempts to find a match for the CD in the online media database provided. The first match found is displayed. For example:

CD BACKUP
Kenny G
Breathless
Track 1
The Joy of Life
MATCH 1
OK NEXT CANC



NOTE: If the media database cannot identify the music CD, the title “Unknown” is displayed. You can edit the CD information using the Navigator user interfaces, Composer, or Composer Media Edition. For more information, see the Composer online help.

3. If the information in Match 1 is correct, press OK. If not, press NEXT until you find the correct match or the “Unknown” option, then press OK. The CD backup will then begin and progress track-by-track until the entire CD is saved in digital format to the hard drive. For example:



CANC: If you press CANC, the backup process will stop from the current track forward. For example, if you press CANC when Track 3 is progressing, Tracks 1 - 2 are saved, but Track 3 and higher are not.

SKIP: If you press SKIP anytime during the recording of a track, the Media Controller skips recording that track and moves on to the next track.

4. When the CD backup is finished and the default system display returns, press EJCT and remove the CD.
5. To copy additional CDs, repeat the steps 2 - 4.



NOTE: If the message HARD DISK FULL displays, then click OK and then click CANC to stop the backup process. You will need to free up disk space on the Media Controller before you can continue backing up CDs.

6. If you are finished copying CDs, press the CLOSE button.
7. To free up disk space on the Media Controller, use the Composer software interface:
 - 7a. Start Composer and open this Media Controller's project.
 - 7b. From the Media view, highlight Digital Audio.
 - 7c. In the Album list, select one or more albums you want to delete and then click Delete.

Change On-screen Navigator Themes

NOTE: The instructions in this manual are based on the default theme, Radiant Blue. When you apply a different theme, your process steps will deviate from the ones documented in this manual. We recommend using the manual to become familiar with the default user interface before changing themes.

1. On the Info option bar, choose Themes. The Themes screen is displayed, including a list of theme options. The default theme is Radiant Blue.



2. Choose a theme, then choose Load Theme. The screen will soon refresh with the theme you chose to load.

CHAPTER 5 Warranty and Regulatory Compliance

This chapter provides the following information:

- ▶ Warranty
- ▶ Regulatory Compliance

Warranty

This section provides the following information:

- ▶ Limited Hardware Warranty
- ▶ Hardware Warranty Terms
- ▶ Software Agreement



IMPORTANT! Warranty terms may be different with the country of purchase; contact your Authorized Control4 Sales and Service office for detailed product warranty information.

Limited Hardware Warranty

Control4 warrants its Media Controller product to be free from defects in material and workmanship during the warranty period. If the Media Controller proves to be defective in material or workmanship during the warranty period, Control4 will, at its sole option, repair or replace the product with a like product. The warranty extends only to products purchased directly from an Authorized Control4 Dealer or Control4 Corporation.

Life of Warranty:

Control4 Media Controllers are warranted for one (1) year from the date of the first consumer purchase.

What the warranty does not cover:

- ▶ Misuses; unauthorized modification; opening for any reason except to perform an official upgrade using a proper tool/kit

- ▶ Operation or storage outside the environmental specifications for the product
- ▶ In-transit damage and improper maintenance
- ▶ Physical damage to the unit, such as a cracked or broken screen or defect resulting from use of improper software, accessories, media, supplies, consumables, or such items not designed for use with the product.

Hardware Warranty Terms

READ THESE WARRANTY TERMS CAREFULLY BEFORE INSTALLING OR USING THE CONTROL4 SYSTEM OR COMPONENTS. YOUR INSTALLATION AND USE OF THE SYSTEM OR ANY OF ITS COMPONENTS INDICATES THAT YOU AGREE TO BE BOUND BY THESE TERMS. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS WARRANTY, RETURN THE PRODUCT TO THE PLACE OF PURCHASE FOR A FULL REFUND.

ONE-YEAR LIMITED WARRANTY

1. WARRANTY

Control4, Corporation. ("Control4") warrants that at the time of sale the Media Controller (the "product") will be free from defects in material and manufacture and will conform to Control4's specifications for the components. Control4 further warrants that for a period of 12 months after sale the product will function in accordance with its specification, PROVIDED THAT it is installed and maintained in accordance with Control4's instructions and is not subjected to (a) alteration or unauthorized repairs, (b) misuse or abuse, (c) Acts of God (including without limitation hurricanes, tornadoes, floods, earthquakes, or other severe weather or natural phenomena), or (d) improper storage or handling or other treatment or installations for which it was not intended. This warranty extends only to products purchased directly from Control4 or an Authorized Control4 Dealer.

2. DISCLAIMER OF OTHER WARRANTIES

The preceding warranties are the exclusive and sole express warranties given by CONTROL4. They supersede any prior, contrary or additional representations, whether oral or written. CONTROL4 HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES- WHETHER EXPRESS, IMPLIED, OR STATUTORY-INCLUDING ANY ARISING FROM COURSE OF DEALING OR USAGE OF TRADE,

ANY WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, except that for product purchased directly by a consumer, any implied warranties are limited in duration to the term of the express warranties provided above.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

3. EXCLUSIVE REMEDY FOR ANY NONCONFORMITIES

If during the applicable Warranty Period, the product does not conform to the preceding Warranties, the Owner shall notify Control4 as provided below, and within a reasonable time Control4 will provide, at its option, one of the following: (1) a replacement product for any nonconforming or defective component (such replacement product may be new or refurbished to be comparable in function and performance to a new product) or (2) the price at which Control4 sold the non-conforming product. In the event of repair or replacement, there may be a loss of data in the memory of the product for which warranty service is sought. Control4 will not provide, and will not be liable for, labor, costs of removal or reinstallation of product, disposal, freight, taxes, or other incidental charges.

THESE REMEDIES ARE THE EXCLUSIVE AND SOLE REMEDIES FOR ANY BREACH OF WARRANTY.

For any breach of warranty, the Owner must notify Control4 in Section 7 below within thirty (30) days after discovering the nonconformity. The notice must describe the location and nature of the nonconformity. The owner must give Control4 a reasonable opportunity to the claimed nonconformity before undertaking any repairs, removal or replacement. All products returned to Control4 require a Return Merchandise Authorization (RMA) number. The RMA number is obtained from Control4 Customer Support Department. The RMA number must be clearly marked on the outside of each box. The RMA is valid for a 30-day period. After the 30-day period, the RMA will be cancelled. Any shipments received not consistent with the RMA or after the RMA is cancelled, will be refused. Control4 is not responsible for products returned without a valid RMA number. Compliance with the requirements of this paragraph is a condition to coverage under the Warranty: If these requirements are not complied with, Control4 will have no obligation to provide any remedy for any breach of warranty.

4. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL CONTROL4 BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT OR FROM CONTROL4'S OWN NEGLIGENCE. This exclusion applies even if the remedy provided by Control4 fails of its essential purpose.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

5. APPLICABLE LAW

This Warranty will be interpreted, construed, and enforced in all respects in accordance with the laws of the State of Utah, without reference to its choice of law rules. The U.N. Convention on Contracts for the International Sale of Goods will not apply to this Warranty.

6. SEVERABILITY

If any provision of this warranty is found to be invalid or unenforceable, then the remainder shall have full force and effect, and the invalid provision shall be partially enforced to the maximum extent permitted by law to effectuate the purpose of the agreement.

7. ADDRESS FOR NOTICES TO CONTROL4

Control4 Corporation
11734 Election Road
Salt Lake City, UT 84020
<http://www.control4.com/>

This warranty gives you specific legal rights and you may also have other rights which vary from State to State.

Software Agreement

The Control4 Media Controller contains pre-installed software. Please read the following Control4 terms before proceeding:



NOTE: Carefully read this License Agreement and the Limited Warranty statement before operating the equipment. The rights to the software are licensed, not sold. Control4 or its licensors continue to own all intellectual property rights to the software, and you will be granted certain rights to use the software upon your acceptance of this license. Rights in the software are offered only on the condition that you agree to all terms and conditions of the License Agreement. Operating the equipment indicates your acceptance of these terms and conditions. If you do not agree to the terms and conditions of the License Agreement, return the complete package for a full refund now.

Terms that Govern Software Use

You may only use the software as designed on the device on which it comes pre-installed. You may not reverse, assemble, or decompile the software.

Limited Software Warranty, Liability, and Remedy



IMPORTANT! This Control4 Software Limited Warranty shall cover all software that is provided to you, the customer, as part of the Control4 product, including any operation system software.

The Remedies provided in this document are your sole and exclusive remedies. In no event shall Control4 be liable for any direct, indirect, special, incidental, or consequential damages (including lost profit), whether based on warranty, contract, tort, or any other legal theory.

In no case shall Control4's liability exceed the purchase price for the software and/or product. The limitations set forth above will apply regardless of whether you accept the software.

Regulatory Compliance

North America

This product complies with standards established by the following regulatory bodies:

Federal Communications Commission (FCC)
Industry Canada
Underwriters Laboratories Inc. (UL)

FCC

FCC ID: R33AVMMC11

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver.
- ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.



IMPORTANT! Changes or modifications not expressly approved by Control4 could void the user's authority to operate the equipment.

Industry Canada

This Class B digital apparatus complies with Canada ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Underwriters Laboratories Inc.

This product has been tested
by UL and has been found to
be in compliance with:

UL 60065:2003: Standard for
Audio, Video and Similar
Electronic Apparatus —
Safety Requirements

CAN/CSA-C22.2 No. 60065-03, First Edition



CE Declaration of Conformity



DECLARATION OF CONFORMITY

Control4 Corporation, 11734 S. Election Road, Suite 200, Salt Lake City,
UT 84020-6432, Tel (801) 523-3100

Product: **Media Controller**, Model No: **AVM-MC1-B**

The undersigned hereby declares, on behalf of Control4 Corporation, that the above-referenced product, to which this declaration relates, is in conformity with the provisions of:

Council Directive 89/336/EEC (May 3, 1989) on Electromagnetic Compatibility
Council Directive 1999/5/EC (Mar 9, 1999) on Radio & Telecommunication Terminal
Equipment (R&TTE)

Council Directive 73/23/EEC (Feb 19, 1973) on Low Voltage Equipment Safety
Council Directive 93/68/EEC (Jul 22, 1993) Amending Directives 89/336/EEC and 73/23/EEC

and has been tested to the requirements of, and shown to be in compliance with, the following requisite standards:

EMC

EN 301 489-1 V1.4.1 — Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services—Part 1 Common technical requirements.

EN 301 489-17 V1.2.1 — Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.
AS/NZS CISPR 22: 2002 — Information Technology Equipment – Radio disturbance characteristics.

Radio

EN 300 328-2 V1.4.1 — Wide band transmission systems; data transmission equipment operating in the 2.4GHz ISM band. Harmonised EN covering essential requirements under Article 3(2) of the R&TTE Directive.
AS/NZS 4771: 2000 — Spread Spectrum Equipment using 900MHz, 2.4GHz and 5.8GHz bands.

Safety

IEC 60950-1: 2001 (1st Edition) and/or EN 60950-1: 2001 — Information Technology Equipment—Safety with national and group differences in accordance with CB Bulletin No. 109A December 2005: AS/NZS 60950-1: 2003.

The Technical Construction File required by these Directives is maintained at the corporate headquarters of Control4, Salt Lake City, Utah, U.S.A.

Signed,

Paul E. Nagel—Vice President of Engineering, July 27, 2006

Recycling

For information on recycling, please go to www.control4.com/recycling

